Quality Improvement As Scholarly Activity

Faculty Development
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Faculty/Presenter Disclosure

- Faculty: Scott McKay

- Relationships with commercial interests:
  - Grants/Research Support: none
  - Speakers Bureau/Honoraria: none
  - Consulting Fees: none
  - Other: none

Disclosure of Commercial Support

- This program has not received commercial financial support
- This program has not received commercial in-kind support

- Potential for conflict(s) of interest:
  - None identified
Mitigating Potential Bias

- Not applicable

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- Donna Manca – University of Alberta
Objectives

• Describe Quality Improvement as a scholarly activity
• Describes the “Standards for Quality Improvement Reporting Excellence: (SQUIRE 2.0)
• Identify opportunities to present and publish Quality Improvement

Have you done scholarly QI work? If so, what?

Has QI lead you to do other scholarly work?

How do you view QI as scholarly activity?

How do you think our Department views QI as scholarly activity?

How do you think Schulich views QI as scholarly activity?

Think – Pair – Share
5 minutes
Describing Quality Improvement as Scholarly Activity

Approach to Scholarship - The Boyer Model

- Scholarship of Discovery
- Scholarship of Integration
- Scholarship of Application
- Scholarship of Teaching

Standards of Accreditation for Residency Programs in Family Medicine

2.2.9 The educational environment supports and promotes resident learning in an atmosphere of scholarly inquiry.

2.3.9.1 Residents have access and are encouraged to attend seminars on different aspects of family medicine.

2.3.9.2 Residents are provided with opportunities to participate in scholarly activities, including but not limited to research, teaching, and quality improvement.

2.3.9.3 Residents have opportunities to attend conferences within and outside their university to augment their learning and/or to present their scholarly work.

2.3.9.4 Resident scholarly activity includes support for the development of those competency in research.

2.3.9.5 The residency program provides formal training in continuous improvement with opportunities for residents to apply their training in a practical or clinical setting.

3.0.6 Residents use the principles of continuous improvement to improve patient care and safety.

3.0.6.1 Residents contribute to a culture that promotes quality improvement and use data to guide process improvement.

3.0.6.2 Residents recognize and can respond to hazards from health care delivery, including patient safety incidents.

Page 24 | 25

Entrustable Professional Activities for the Transition from Medical School to Residency

EPA 10 - Participate in health quality improvement initiatives

<table>
<thead>
<tr>
<th>EPA 10</th>
<th>Participate in health quality improvement initiatives</th>
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</thead>
<tbody>
<tr>
<td>1. Goal Description</td>
<td>The graduate recognizes and uses quality improvement for safety and quality issues in patient care or system of care. The graduate collaborates with others to improve patient care or system of care to achieve patient safety goals.</td>
</tr>
</tbody>
</table>
| 2. Most relevant: | Medical education: 
| * Patient: | 
| * System: | 
| 3. Entrustable Behaviors | Pre-Entrustable: 
| * Teacher: | 
|   - Participation in quality improvement projects: | 
|   - Participates in quality improvement projects and activities: | 
| * System: | 
|   - Participates in quality improvement projects: | 
|   - Participates in quality improvement activities: | 
| * System: | 
|   - Participates in quality improvement projects: | 
|   - Participates in quality improvement activities: | 
| 4. Assessment suggestions | 
| Quality improvement project (e.g., identification of harm and harm reduction, implementation of evidence-based practice, development of a preventative health program) |
The successful candidate will hold an MD, or equivalent, be certified or eligible to be certified as a member of the Royal College of Physicians and Surgeons of Canada, and be eligible for licensure in the Province of Ontario. The successful candidate can have a background in any sub-specialty area and will have demonstrated academic productivity in the area of Quality, – publications and/or program development. Masters’ or PhD level preparation or additional training in Quality improvement, LEAN, Six Sigma or other quality related areas are welcome attributes.

Complex relationships between the clinical, teaching and research aims of the Department in an existing health care system located in a new single facility aligned with the University, Lawson Health Research Institute, London Health Sciences Centre and St. Joseph’s Hospital. He/she must have a strong record of clinical service, quality improvement, and leadership in both clinical and research activities. Furthermore, the successful candidate will have demonstrated competency in scholarship and the plans to expand the strengths of integrated teaching and research programs of the
CRITERIA TO CONSIDER FROM ROLE MODEL, GENERAL CONTRIBUTIONS AND HEALTH CARE LEADERSHIP

i) Organization of programs or championing a major health care initiative or leading knowledge transfer initiatives aimed to improve quality of patient care or patient safety

NOT under Research & Scholarly Activity!
QI is Scholarly Activity

Boyer’s Scholarship of Application

• Information is first discovered… then applied
• Scholarship aiding society and professions to address problems

SQUIRE 2.0

(Standards for Quality Improvement Reporting Excellence)
• 1st draft publication guidelines for QI debuted in 2005
• SQUIRE 1.0 was published in 2008
  • Reduce uncertainty about scholarly QI reports
  • Increase completeness, precision and transparency in published QI
• Since 2008, exponential growth in QI in healthcare, plus advances and refinement in QI science

Reference:

SQUIRE 2.0

• Framework of 18 items for consideration to include in a manuscript
• Based around A. Bradford Hill’s four fundamental questions:
  1. Why did you start?
  2. What did you do?
  3. What did you find?
  4. What does it mean?
SQUIRE 2.0

- Encourages reporting of well done, negative studies as “vital for the learning” in QI
- Emphasizes the planning, design, and execution be reported - i.e., formal or informal theories, models, concepts
- Introduces “studying the interventions” - will contribute to the body of knowledge about the efficacy and generalizability of QI efforts
### Methods

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Purpose of the project and this report.</td>
<td>What did you do?</td>
</tr>
<tr>
<td>2. Context</td>
<td>Contextual elements considered important at the outset of introducing the intervention(s).</td>
</tr>
</tbody>
</table>
| 3. Intervention(s) | a. Description of the intervention(s) in sufficient detail that others could reproduce it.  
  b. Specifics of the team involved in the work. |
| 4. Study of the intervention(s) | a. Approach chosen for assessing the impact of the intervention(s).  
  b. Approach used to establish whether the observed outcomes were due to the intervention(s). |
| 5. Measures | a. Measures chosen for studying processes and outcomes of the intervention(s), including rationale for choosing them, their operational definitions and their validity and reliability.  
  b. Description of the approach to the ongoing assessment of contextual elements that contributed to the success, failure, efficiency and cost.  
  c. Methods employed for assessing completeness and accuracy of data. |
| 6. Analysis | a. Qualitative and quantitative methods used to draw inferences from the data.  
  b. Methods for understanding variation within the data, including the effects of time as a variable. |
| 7. Ethical considerations | Ethical aspects of implementing and studying the intervention(s) and how they were addressed, including, but not limited to, formal ethics review and potential conflicts of interest. |

### Results

<table>
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<tr>
<th>Section</th>
<th>Description</th>
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| 8. Results | a. Initial steps of the intervention(s) and their evolution over time (eg. time-line diagram, flow chart or table), including modifications made to the intervention during the project.  
  b. Details of the process measures and outcomes.  
  c. Contextual elements that interacted with the intervention(s).  
  d. Observed associations between outcomes, interventions and relevant contextual elements.  
  e. Unintended consequences such as unexpected benefits, problems, failures or costs associated with the intervention(s).  
  f. Details about missing data. |

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**Table 1: Continued**

<table>
<thead>
<tr>
<th>Text section and item name</th>
<th>Section or item description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion</td>
<td>What does it mean?</td>
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</tbody>
</table>
| 14. Summary | a. Key findings, including relevance to the rationale and specific aims.  
  b. Particular strengths of the project. |
| 15. Interpretation | a. Nature of the association between the intervention(s) and the outcomes.  
  b. Comparison of results with findings from other publications.  
  c. Impact of the project on people and systems.  
  d. Reasons for any differences between observed and anticipated outcomes, including the influence of context.  
  e. Costs and strategic trade-offs, including opportunity costs. |
| 16. Limitations | a. Limits to the generalisability of the work.  
  b. Factors that might have limited internal validity such as confounding, bias or imprecision in the design, methods, measurement or analysis.  
  c. Efforts made to minimise and adjust for limitations. |
| 17. Conclusions | a. Usefulness of the work.  
  b. Sustainability.  
  c. Potential for spread to other contexts.  
  d. Implications for practice and for further study in the field.  
  e. Suggested next steps. |
| Other Information | Sources of funding that supported this work. Role, if any, of the funding organisation in the design, implementation, interpretation and reporting. |
Presenting and Publishing Quality Improvement

Presenting & publishing results of QI initiatives…

• Contributes to the body of knowledge about how to improve care and outcomes for patients

• Increases the rigor with which we conduct QI initiatives

• Builds our reputation as a leader in healthcare quality improvement
Making your QI publishable

- Focus on innovative and relevant topics
- Offer something \textit{NEW}
- Address a pressing problem
- Try to make findings generalizable

Tips to improve generalizability

- Describe the population well
- Describe the intervention(s) well so they can be replicated
- Describe the context well (feasibility)
Conducting QI+

- Rigorous planning of the project
- Data, data, and more data - Baseline, during and post-intervention
- Specific, focused operational definitions
- Thoroughly research, plan, and document interventions/change ideas
- Use “strong” QI designs

Quantitative Study Designs for QI Research

1. Cluster randomized trials
2. Stepped Wedge Design
3. Time Series Design*
4. Before-After Studies

- Unit of analysis, Data quality, follow-up

Fan E, et al JAMA 2010;304(20)2279-87
Where to present

• Many QI conferences and conferences that accept QI work
• Health Quality Ontario QI & Patient Safety Forum
• IHI National QI Forum

Where to publish

– The American Journal of Medical Quality
– The International Journal for Quality in Health Care
– BMJ Quality
– Journal for Healthcare Quality
– BMJ Case Reports
– BMJ Quality and Safety
Publish something related to your QI work

- May not need to publish on the QI activity itself
  - scoping review to help define the problem in preparation for the QI activity
  - An analysis of a specific intervention
  - Other information related to the literature review/root cause analysis
Where do we go from here?

Where are YOUR opportunities for scholarly QI?

What can we do as a department to support and produce scholarly QI?

Any other thoughts or ideas?
Where do we go from here?

- PBRN
- Department wide QI initiative
- Get involved in more QI
- Faculty develop resident and student projects further
- Look for research opportunities in QI
- Look for QI opportunities in research

“…we need targeted and persistent effort by QI leaders in Family Medicine to demonstrate at a Faculty and Department level that Quality Improvement is scholarship.”

- Dr. Elizabeth Muggah
  Director of Quality Improvement
  Department of Family Medicine
  University of Ottawa
Questions? Comments?
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@sdmckay2002

“This really is an innovative approach, but I’m afraid we can’t consider it. It’s never been done before.”